

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method of regulating the power available at an electrode carried by a manipulator of an electronic scalpel for cutting tissue and coagulating blood, said scalpel having a rectifying circuit for supplying a rectified and direct voltage;

a radio frequency circuit including a pilot circuit having a wave signal input, said radio frequency circuit producing a current carrier signal at a main frequency,

said method comprising the steps of:

producing a modulating signal;

combining the modulating signal and the current carrier signal to produce a wave form having two or three harmonics resulting from the combination of said current carrier signal and of the modulating signal,

applying the wave form to the electrode of the manipulator;

regulating the amplitude of said wave form in order to avoid destroying tissue, including at least one of varying the amplitude of the wave signal applied to said pilot circuit and varying said rectified and direct voltage supplied to said radio frequency circuit;

transmitting energy from the manipulator to the tissue such that the temperature of the tissue in which the coagulation takes place is in a range between about 50°C and about 75°C, such temperature range resulting in denaturation of fibrinogen and its transformation into fibrine.

2. (canceled)

3. (canceled)

4. (currently amended) An electronic scalpel comprising:

a manipulator having an electrode for cutting tissue and ~~clotting~~ coagulation of blood;

a rectifying circuit for supplying a rectified voltage and a direct voltage;

a pilot circuit;

a radio frequency circuit including an electronic switch fed by said rectified voltage and controlled by the pilot circuit for producing an output wave, said radio frequency circuit producing a resulting wave formed by the combination of a generally square carrier wave of a selected frequency and a modulating wave[[,]];

a wide band resonant circuit for circulating the resulting wave at the frequency of said carrier wave, the pilot circuit produces an output for controlling the electronic switch to regulate the amplitude of the resulting wave to avoid destruction of the tissue;

~~including~~ a regulator for modifying the rectified voltage of the pilot circuit wherein the resulting wave ~~form~~ has an amplitude at the manipulator varied by means of said regulator such that the temperature of the tissue in which the coagulation takes place is in a range between about 50°C and about 75°C, such temperature range resulting in denaturation of fibrinogen and its transformation into fibrin.

5. (previously presented) The electronic scalpel according to claim 4, wherein the switch has a parasitic capacity and a transformer feeding the manipulator, said transformer having a primary circuit with an inductance, said resonant circuit includes the parasitic capacity of said electronic switch and the inductance of the primary circuit of the transformer feeding said manipulator.

6. (canceled).

7. (currently amended) The electronic scalpel according to claim 4, wherein the amplitude of the resulting wave ~~form~~ at the manipulator is variable by modification of the rectified and direct voltage which feeds said radiofrequency circuit.

8. (currently amended) The electronic scalpel according to claim 4, wherein the ~~the~~ amplitude of the resulting wave ~~form~~ at the manipulator is variable by modification of the rectified and direct voltage which feeds said radiofrequency circuit and by a regulator which modifies the voltage of the pilot circuit.

9. (previously presented) The electronic scalpel according to claim 4, wherein said pilot circuit is connected to a control circuit comprising a microprocessor interrupting at predetermined intervals an input to said pilot circuit so that the wave passing through the resonant circuit takes the form of a train of intermittent pulses, each comprising an amplitude modulated wave.

10. (currently amended) The electronic scalpel according to claim 4, wherein said switch has a collector and ~~a the~~ modulating wave ~~form~~ is applied to the collector of said electronic switch, said modulating wave comprising positive half cycles of the rectified voltage.

11. (previously presented) The electronic scalpel according to claim 4, wherein the carrier wave has a frequency of about 4 MHz.

12. (previously presented) The electronic scalpel according to claim 11, wherein the pilot circuit produces a pulse train having a frequency of about 20-30 KHz.

13. (previously presented) The electronic scalpel according to claim 11, wherein the modulating wave has a frequency of about 50 Hz.

14. (previously presented) The electronic scalpel according to claim 11, wherein the modulating wave has a frequency of about 60 Hz.